Space Weather Forecast

Issued on Wednesday, 24 November 2021 at 00:57 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

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Space Weather Forecast Headline: No significant activity.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity was very low, with no significant flares detected. There are currently four small and magnetically weak sunspot regions visible. No Earth-directed coronal mass ejections (CMEs) were seen.

Solar Wind / Geomagnetic Activity: Solar wind speeds were elevated for much of the period, reaching 560 km/s at 23/1343 UTC, before erratically declining and ending slightly elevated near 490 km/s. The solar wind's magnetic field was weak, with no significant negative deflections in the important north-south direction. Resultant geomagnetic activity was Quiet.

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) remained at background with no solar radiation storms detected.

Four-Day Space Weather Forecast Summary

Solar Activity: With only small and simple sunspots expected in view, solar activity is expected to remain very low, with just a slight chance of Common-class flares.

Solar Wind / Geomagnetic Activity: No Earth-directed CMEs are currently forecast. Solar winds are expected return to background values by day 2 (25th) under weakening high speed stream influences, with mostly Quiet geomagnetic activity. However, further enhancements are possible by day 3 (26th) under coronal hole influences, bringing occasional Unsettled intervals, and a slight chance of Active intervals, but this is low confidence.

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is expected to remain at background with no solar radiation storms forecast.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

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Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	1	2	5	5
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	1	1	1	1
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

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